UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,918	12/14/2004	Joachim Wilhelm Hellmig	NL 020529	8895

24737 7590 07/16/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
DANIELSEN, NATHAN ANDREW	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
07/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,918	HELLMIG, JOACHIM WILHELM	
	Examiner	Art Unit	
	Nathan Danielsen	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1,2,4-12 and 14-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,14,15,17-20,22,23,25,27 and 29-32* is/are rejected.

7)☒ Claim(s) *2,7,12,16,21,24,26 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-6, 14, 15, 17-20, 22, 23, 25, 27, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiratori (US Patent 5,751,669).

Regarding claims 1 and 11, Shiratori discloses a method (and corresponding recording device) of recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam (figure 12c and col. 11, lines 20-56), each mark being written by a sequence of pulses (pulse periods consisting of P_{W0}, P_W, and P_{WB} in figure 12c as shown on page 3), the recorded marks being erasable by irradiating the information layer with an erase radiation beam (col. 11, lines 38-56), wherein said erase radiation beam between two successive sequences of pulses for writing marks consists of three erase periods (pulse periods P_{IB}, P_{E0}, P_E, and P_{EB} in figure 12c), and wherein said erase radiation beam has a first erase power level for a first erase period (pulse period P_{IB} in figure 12c) followed by a second erase power level higher than said first erase power level for a second erase period (pulse period P_{E0} in figure 12c), and period followed by a third erase power level lower than said second erase power level for a third erase period (pulse period δ in figure 12c, where the average level of pulse periods P_E and P_{EB} is lower than the power level of pulse period P_{E0}).

Regarding claim 4, Shiratori discloses everything claimed, as applied to claim 1. Additionally, Shiratori discloses where said second erase power level is lower than the write power level (w) of said pulses of said pulsed radiation beam for recording marks (note the relationship between pulse period P_{E0} and pulse periods P_{W0} and P_W in figure 12c).

Regarding claim 5, Shiratori discloses everything claimed, as applied to claim 1. Additionally, Shiratori discloses where said third erase power level is higher than the bias power level (b) between said pulses of said pulsed radiation beam for recording marks (note the relationship between pulse periods P_E and P_{WB} in figure 12c).

Regarding claim 6, Shiratori discloses everything claimed, as applied to claim 1. Additionally, Shiratori discloses where said first erase period and said second erase period are shorter than said third erase period (pulse period P_{IB} as compared to the combination of pulse periods P_{E0}, P_E, and P_{EB} in figure 12c).

Regarding claim 17, Shiratori discloses everything claimed, as applied to claim 1. Additionally, Shiratori discloses where the data includes a high period and a low period (figure 12b), and wherein a start of the erase radiation beam substantially coincides with a beginning of the low period (note the position of the data on the track shown in figure 12d and the vertical lines connecting figure 12d to figure 12b).

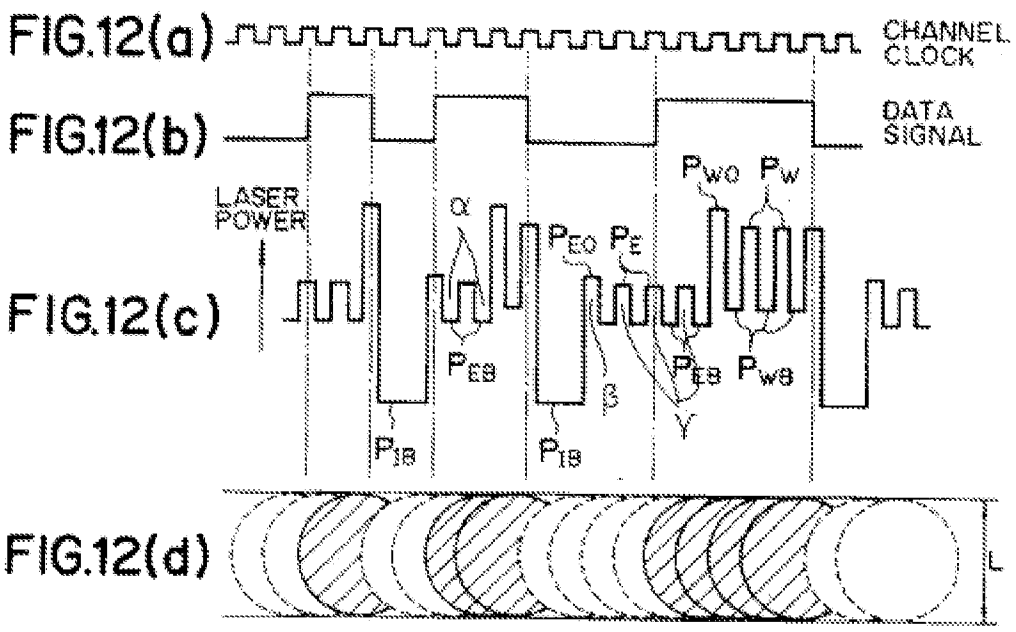
Regarding claim 18, Shiratori discloses everything claimed, as applied to claim 1. Additionally, Shiratori discloses where the data includes a high period and a low period (figure 12b), and wherein the three erase periods substantially fill the low period (note the position of the data on the track shown in figure 12d and the vertical lines connecting figure 12d to figure 12b).

Regarding claims 14, 19, and 22, Shiratori discloses a method of recording marks on a record carrier, the method comprising the acts of:

irradiating the record carrier with a radiation beam, each mark being written by a sequence of pulses (col. 11, lines 20-56 and figure 12c), and

erasing recorded marks by irradiating the record carrier with an erase radiation beam comprising three erase periods (col. 11, lines 20-56 and figure 12c),

wherein said erase radiation beam has a first erase power level for a first erase period followed by a second erase power level higher than said first erase power level for a second erase period followed by a third erase power level lower than said first erase power level for a third erase period (note pulses α, β, and γ in figure 12, as shown below).



Regarding claims 15, 20, and 23, Shiratori discloses everything claimed, as applied to claims 14, 19, and 22, respectively. Additionally, Shiratori discloses where the marks represent data including a high period and a low period (figure 12b), and wherein a start of the erase radiation beam substantially coincides with a beginning of the low period (note the position of the data on the track shown in figure 12d and the vertical lines connecting figure 12d to figure 12b).

Regarding claims 25 and 27, Shiratori discloses every limitation, as shown with respect to claims 14, 15, 19, 20, 22, and 23 above.

Regarding claims 29 and 31, Shiratori discloses a method (and associated recording device) of recording marks on a record carrier, the method comprising the acts of:

irradiating the record carrier with a radiation beam, each mark being written by a sequence of pulses (col. 11, lines 20-56 and figure 12); and

erasing recorded marks by irradiating the record carrier with an erase radiation beam (col. 11, lines 20-56 and figure 12);

wherein the recorded marks represent data including a high period and a low period (figures 12b and 12d), and

wherein the erase radiation beam includes pulses that substantially fill the low period (note the position of the data on the track shown in figure 12d and the vertical lines connecting figure 12d to figure 12b),

wherein a second pulse (pulse P_{E0} in figure 12c) of the pulses of the erase radiation beam has a higher level than a first pulse (pulse P_{IB} in figure 12c) and a third pulse (pulses P_E amd P_{EB} in figure 12c) of the erase radiation beam, the first pulse and the third pulse of the erase radiation beam having different power levels (note the relationship among pulse periods P_{IB}, P_E, and P_{EB} in figure 12c).

regarding claims 30 and 32, Shiratori discloses everything claimed, as applied to claims 29 and 31, respectively. Additionally, Shiratori discloses where a start of the erase radiation beam substantially coincides with a beginning of the low period (note the position of the data on the track shown in figure 12d and the vertical lines connecting figure 12d to figure 12b).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (US Patent 6,456,584; hereinafter Nagata).

Regarding claim 8, Shiratori discloses everything claimed, as applied to claim 1. However, Shiratori fails to disclose where said information layer has a phase which is reversibly changeable between a crystal phase and an amorphous phase.

In the same field of endeavor, Nagata discloses where said information layer has a phase which is reversibly changeable between a crystal phase and an amorphous phase (col. 3, line 51 through col. 4, line 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the record carrier of Shiratori with the structure of Nagata, for the purpose of providing a re-writable record carrier (col. 3, lines 5-7) which is recorded and erased by a recording/reproducing device having a simplified structure (i.e. no heat source).

Regarding claims 9 and 10, Shiratori discloses everything claimed, as applied to claim 1. However, Shiratori fails to disclose where the record carrier comprises at least two layers with one layer being at least partially transparent.

In the same field of endeavor, Nagata discloses where said record carrier comprises at least two information layers (col. 3, lines 51-59) and at least one of said two information layers is at least partially transparent (col. 4, lines 44-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the record carrier of Shiratori with the structure of Nagata for the purpose of recording data on a record carrier having a large storage capacity (col. 5, lines 65-67).

Allowable Subject Matter

6. Claims 2, 7, 12, 16, 21, 24, 26, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 12, the prior art of record, either alone or in combination, fails to teach or fairly suggest the combination of all limitations in the following portion of claims 1 and 11, as amended to include the limitations of claims 2 and 12: an erase radiation beam between two successive sequences of pulses for writing marks consists of three erase periods, and wherein said erase radiation beam has a first erase power level for a first erase period followed by a second erase power level higher than said first erase power level for a second erase period, followed by a third erase power level lower than said first erase power level for a third erase period.

Regarding claim 7, the prior art of record, either alone or in combination, fails to teach or fairly suggest where the sum of said first erase period and said second erase period is shorter than half the shortest mark being recorded.

Regarding claims 16, 21, 24, 26, and 28, the prior art of record, either alone or in combination, fails to teach or fairly suggest wherein the three erase periods substantially fill the low period.

Response to Arguments

7. Applicant's arguments filed 08 April 2008, with respect to the rejection(s) of claim(s) 1, 11, 14, 19, 22, 25, 27, 29, and 31 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shiratori.

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571)272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

Nathan Danielsen
07/09/2008